South Indian Bend Wash

Boundaries:

South Indian Bend Wash (SIBW) represents the southern portion of the Indian Bend Wash Superfund site, and encompasses approximately four square miles in Tempe, Arizona. SIBW is bounded by Apache Boulevard on the south, Rural/Scottsdale Road on the west, Price Road on the east, and Curry Road on the north.

Site History:

- SIBW was initially part of the Indian Bend Wash (IBW) Superfund site that was placed on EPA's National Priorities List (NPL) in September 1983 after the City of Phoenix detected volatile organic compounds in municipal wells in the Scottsdale/Tempe area in 1981.

- The EPA began remedial investigation of the site in 1983, and at the end of 1987, informally split the IBW into two study areas: the Indian Bend Wash North (NIBW) and Indian Bend Wash South (SIBW).

- In September 1993, the EPA issued a Record of Decision (ROD) for the cleanup of volatile organic compounds (VOCs) in soil at eight industrial facilities. This ROD required a "plug-in" presumptive remedy involving the use of soil vapor extraction systems (SVE). Each sub-site collected soil vapor data and followed the ROD's guidelines to determine if an SVE system was necessary.

- The EPA and ADEQ have completed technical reviews of the focused remedial investigation plug-in assessments and determined that the following six subsites (Cerprobe Corp., former Service & Sales, former Eldon Drapery, former Desert Sportswear, former Circuit Express and former Allstate) do not meet or exceed the plug-in criteria as described in the 1993 ROD.

- In September 1998, the EPA signed a ROD for the cleanup of VOCs in the groundwater operable unit at this site. The selected remedy required monitored natural attenuation (MNA) for the central and eastern portions of the plume, and a groundwater extraction and treatment system for the western portion of the plume.

- The EPA entered into negotiations with six potentially responsible parties (PRPs) in 1999 and executed an Administrative Order on Consent (AOC) with only one of the PRPs (IMC Magnetics) on September 27, 2000. This AOC requires IMC Magnetics to design the MNA remedy for the central and eastern plumes. This work is currently in progress and involves the installation of groundwater monitoring wells and long-term monitoring of plume behavior and VOC degradation.
- The western plume remedy is being addressed by EPA as a fund-lead action. The DCE Circuits site and the APS Ocotillo generating station are thought to be contributors to the SIBW western groundwater contamination plume.

- During February 2003, EPA and ADEQ agreed that the former landfills along the banks of the Salt River do not pose a threat significant enough to continue to be listed as part of the SIBW Superfund site. As a result, EPA published a notice of intent to delete (NOID) the landfills from the national Priority List (NPL) for public comment. Only one positive comment was received, and the final Notice of Deletion (NOD) was sent by the EPA for filing in the Federal Register on May 21, 2003.

- EPA and ADEQ have completed technical reviews of the focused remedial investigation (FRI) plug-in assessments, and have determined that the following six subsites (Cerprobe Corp., former Service & Sales, Former Eldon Drapery, former Desert Sportswear, former Circuit Express and former Allstate) do not meet or exceed the plug-in criteria as described in the 1993 ROD.

Site Status:

- Long term monitoring of the central and eastern plumes as part of the MNA remedy is being implemented by IMC Magnetics.

- In February 2003, a work plan for additional soil investigation at the DCE Circuits site was prepared by the EPA. The work plan is under technical review.

- Cleanup of the western plume is being conducted as an EPA fund-lead action. EPA will prepare a ROD amendment to reflect a change to the most cost-effective remedial technology to address the remaining groundwater contamination in the western plume. A plan that involves monitored natural attenuation will likely be developed to address the remaining groundwater contamination and to achieve the groundwater cleanup goals specified in the applicable ROD. A draft technical memorandum entitled, *Using Monitored Natural Attenuation as a Potential Remedial Alternative for South Indian Bend Wash - June 19, 2003* has been developed and is currently under review by the agencies.

Site Hydrogeology:

- At SIBW, groundwater occurs in three aquifer units: upper, middle, and lower alluvial units. The materials are primarily a thick, basin-fill sequence of alluvial sediments derived from surrounding mountains. Igneous rocks intrude in places, and a crystalline bedrock exists in juxtaposition to the alluvial units as a result of block faulting.

- The upper alluvial unit (UAU) is distributed across the entire IBW-South study area, and generally has a uniform thickness. The UAU typically is found near or at the ground surface and extends to approximately 110 to 170 feet below ground surface (bgs). The estimated transmissivity values varied widely from a low of 1,900 square feet per day (ft^2 /day) to a high of 73,000 ft^2/day.

- Groundwater flow directions in the UAU are south to southwest during non-river flow conditions in the Salt River. These flow directions shift to south and southeast during

river flow conditions in the Salt River when recharge influences groundwater flow directions. Groundwater flow through the UAU originates mainly from Salt River recharge (during flow events) and lateral inflow moves vertically downward, eventually entering the MAU.

- The middle alluvial unit (MAU) lies below the UAU and located approximately 170 to 200 feet below ground surface, and consists primarily of clay and sandy silt with significant interbedded layers of sand and gravel mixtures. These coarser-grained interbedded layers generally represent the zones with higher hydraulic conductivity in the MAU. Weak to strong calcium carbonate cementation is also present in the MAU.

- The groundwater flow direction in MAU Subunit B is generally west to east, but insufficient data exist to fully characterize the flow direction. The groundwater flow direction in MAU Subunit C varies from due north to east, with northeast appearing to be the predominant flow direction.

- The lower alluvial unit (LAU) underlies the MAU and usually encountered at 500 feet bgs. Observations of the LAU indicate that the composition of the LAU is a conglomerate, dominated by weakly cemented gravel, sand, silt, and rock fragments.

- Limited data exist to estimate groundwater flow directions in the LAU. The general flow direction is to the east or northeast, similar to the MAU.

Contaminants:

The current contaminants of concern in groundwater include volatile organic compounds (VOCs). The current contaminants of concern in soil include VOCs, cyanides, acids, and heavy metals (chromium and lead). Contaminants of concern at the site may change as new data become available.

Public Health Impact:

All drinking water supply wells within the site boundaries are inactive. Groundwater in the area is used for industrial purposes only. Drinking water is served by the City of Tempe municipal service from wells outside of the site boundaries.

Community Involvement Activities:

A fact sheet was distributed to the site area in February 2002.

Information Repository:

Interested parties can review site information at the information repository located at the Tempe Public Library (South Area) located at 3500 South Rural Road in Tempe, (480) 350-5500. Site files are also located at the ADEQ main office located at 1110 West Washington Street, Phoenix. Site information at ADEQ is available for review on Monday through Friday from 8 a.m. to 5 p.m. To arrange for a time to review the public site file, please call the ADEQ Records Center (602) 771-4378 or (800) 234-5677 (Arizona toll free).

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*In Arizona, but outside the Phoenix area, call toll-free at (800) 234-5677.
**Call EPA's toll-free message line at (800) 231-3075.